

Atty. Docket No. 2003-0067-01
UJSSN 10/672,181

In the Claims:

Please amend the claims as follows:

1. (previously presented): A gas discharge laser having a laser gas containing fluorine comprising:

a gas discharge electrode comprising:

a copper and copper alloy electrode body having an upper curved region containing the discharge footprint for the electrode comprising copper and a lower portion comprising a copper alloy;

wherein the electrode has a facing portion facing a discharge region, the facing portion of the electrode being formed in an arcuate shape extending into straight line portions on either side of the arcuate portion, the straight line portions terminating in vertical straight sides, with the boundary between the copper and copper alloy including at least the arcuate portion.

2. (canceled)

3. (original): The apparatus of claim 1 further comprising:

the electrode comprising a bonded element machined from two pieces of material the first made of copper and the second made of a copper alloy bonded together before machining.

4. (previously presented): The apparatus of claim 1 further comprising:

the electrode comprising a bonded element machined from two pieces of material the first made of copper and the second made of a copper alloy bonded together before machining.

5.-16. (canceled)

17. (previously presented): A method of making an electrode for a gas discharge laser having a laser gas containing fluorine comprising:

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fabricating the electrode utilizing a copper and copper alloy cathode body having an upper curved region containing the discharge footprint for the electrode comprising copper and a lower portion comprising a copper alloy by diffusion bonding the upper curved region to the lower portion wherein the electrode has a facing portion facing a discharge region, the facing portion of the electrode being formed in an arcuate shape extending into straight line portions on either side of the arcuate portion, the straight line portions terminating in vertical straight sides, with the boundary between the copper and copper alloy including at least the arcuate portion; and

forming the facing portion of the electrode in a arcuate shape extending into straight line portions on either side of the arcuate portion, the straight line portions terminating in vertical straight sides, with the boundary between the copper and the copper alloy including at least the arcuate portion.

18. (canceled)

19. (original): The method of claim 17 further comprising:

fabricating the electrode from a bonded element machined from two pieces of material the first made of copper and the second made of a copper alloy bonded together before machining.

20. (previously presented): The method of claim 17 further comprising:

machining the electrode from a bonded element formed of two pieces of material the first made of copper and the second made of a copper alloy bonded together before machining.

21.-32. (canceled)

33. (previously presented): A gas discharge laser having a laser gas containing fluorine comprising:

a gas discharge electrode comprising:

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an electrode body having an upper curved region containing the discharge footprint for the electrode consisting essentially of copper and a lower portion comprising a copper alloy.

34. (previously presented): The apparatus of claim 33 further comprising:

the facing portion of the electrode is formed in an arcuate shape extending into straight line portions on either side of the arcuate portion, the straight line portions terminating in vertical straight sides, with the boundary between the copper and copper alloy including at least the arcuate portion.

35. (currently amended): The apparatus of claim 33 further comprising:

the electrode ~~comprising a bonded element machined from two pieces~~ formed by bonding a piece of material the first made of copper and the second made of a piece of copper alloy and thereafter bonded together before machining to form said upper curved region and said lower portion.

36. (currently amended): The apparatus of claim 34 further comprising:

the electrode ~~comprising a bonded element machined from two pieces~~ formed by bonding a piece of material the first made of copper and the second made of a piece of copper alloy and thereafter bonded together before machining to form said upper curved region and said lower portion.